

IN THE CLAIMS:

The claims, as pending in the subject application, read as follows:

1. (Withdrawn) A network scanning system having: a connection apparatus including a scanner interface and a network interface, which are connected to a scanner device connected to a general information processing apparatus, so as to cause said scanner device to function as a network scanner device; and a control apparatus to control said connection apparatus via a network,

wherein said connection apparatus comprising:

standard input/output means for receiving bitmap image data generated by drawing processing in said control apparatus via said network interface then displaying the bitmap image data on a predetermined display unit, and outputting an input into a predetermined instruction input unit from a user to said control apparatus via said network interface; and

scanner communication means for receiving an instruction command to said scanner device issued by said control apparatus via said network interface then outputting the command to said scanner interface, and transmitting data received via said scanner interface to said control apparatus via said network interface,

and wherein said control apparatus comprising:

virtual standard input/output means for transmitting bitmap image data drawn in accordance with a request from a scanner control application to said standard input/output means of said connection apparatus, and notifying said application of an input

from said standard input/output means, thereby causing said standard input/output means of said connection apparatus to function as a virtual standard input/output device of said control apparatus; and

virtual scanner communication means for transmitting a request command from a scanner driver for said scanner device to said scanner communication means of said connection apparatus, and outputting information from said scanner communication means to said scanner driver, thereby causing said scanner device connected to said connection apparatus to function as a scanner device virtually connected to said control apparatus.

2. (Withdrawn) The network scanning system according to claim 1, wherein said instruction input unit is a coordinate input panel provided on a display screen of said display unit.

3. (Withdrawn) The network scanning system according to claim 1, wherein the bitmap image data outputted from said control apparatus includes a display coordinate position and a size of said display unit of said connection apparatus.

4. (Withdrawn) The network scanning system according to claim 1, wherein a communication protocol between said control apparatus and said connection apparatus is TCP/IP, and wherein an output and an input by said standard input/output means and said scanner communication means use different logic port numbers.

5. (Withdrawn) The network scanning system according to claim 1, wherein said connection apparatus further comprising:

means for receiving plural bitmap image data from said control apparatus and storing the data;

animation display means for, when a start instruction is received from said control apparatus, displaying the stored bitmap image data at predetermined time intervals; and

means for, when a stop instruction is received from said control apparatus, stopping said animation display means.

6. (Previously Presented) A scanner connection apparatus, having a network interface and a scanner interface for connecting to a scanner device, which is connected to a network and which outputs image data read by said scanner device to a control apparatus via said network interface comprising:

instruction operation means for instructing an operation of said scanner device, and for instructing a transmission, via said network interface, of data received from said scanner device;

input means for receiving, from said control apparatus, data via said network interface then displaying a pattern for said instruction operation means in accordance with the received data on a predetermined display unit, enabling said instruction operation means to input an instruction on the predetermined display unit and outputting an input into a predetermined instruction input unit from a user to said control

apparatus via said network interface; and

scanner communication means for receiving, via said network interface, an instruction command to said scanner device issued by said control apparatus in accordance with an instruction of said instruction operation means then outputting the received command to said scanner interface for reading operation of said scanner device, and receiving data from said scanner device via said scanner interface in accordance with said instruction of said instruction operation means, and transmitting the data, received from said scanner device, to said control apparatus via said network interface.

7. (Previously Presented) A control method for a scanner connection apparatus, having a network interface and a scanner interface for connecting to a scanner device, which is connected to a network and which outputs image data read by said scanner device to a control apparatus via said network interface, said method comprising:

an instruction operation step of instructing an operation of the scanner device, and for instructing a transmission, via said network interface, of data received from the scanner device;

an input step of receiving, from said control apparatus, data via said network interface then displaying a pattern for said instruction operation step in accordance with the received data on a predetermined display unit, enabling said instruction operation step to input an instruction on the predetermined display unit and outputting an input into a predetermined instruction input unit from a user to said control apparatus via said network interface; and

a scanner communication step of receiving, via said network interface, an instruction command to said scanner device issued by said control apparatus in accordance with an instruction in said instruction operation step then outputting the received command to said scanner interface for reading operation of said scanner device, and receiving data from said scanner device via said scanner interface in accordance with said instruction in said instruction operation step, and transmitting the data, received from said scanner device, to said control apparatus via said network interface.

8. (Withdrawn) A scanner control apparatus which remote-controls via a network a connection apparatus having: a network interface; a scanner interface which is connected to a scanner device connected to a general information processing apparatus; standard input/output means for functioning as a standard input/output device; and scanner connection means for outputting image data read by said scanner device connected to said scanner interface to a network in accordance with a request received via said network interface, said scanner control apparatus comprising:

virtual standard input/output means for transmitting bitmap image data drawn in accordance with a request from a scanner control application to said standard input/output means of said connection apparatus, and notifying said application of an input from said standard input/output means, thereby causing said standard input/output means of said connection apparatus to function as a virtual standard input/output device of said scanner control apparatus; and

virtual scanner communication means for transmitting a request

command from a scanner driver for said scanner device to said scanner communication means of said connection apparatus, and outputting information from said scanner communication means to said scanner driver, thereby causing said scanner device connected to said connection apparatus to function as a scanner device virtually connected to said control apparatus.

9. (Withdrawn) A control method for a scanner control apparatus which remote-controls via a network a connection apparatus having: a network interface; a scanner interface which is connected to a scanner device connected to a general information processing apparatus; standard input/output means for functioning as a standard input/output device; and scanner connection means for outputting image data read by said scanner device connected to said scanner interface to a network in accordance with a request received via said network interface, said method comprising:

a virtual standard input/output step of transmitting bitmap image data drawn in accordance with a request from a scanner control application to said standard input/output means of said connection apparatus, and notifying said application of an input from said standard input/output means, thereby causing said standard input/output means of said connection apparatus to function as a virtual standard input/output device of said scanner control apparatus; and

a virtual scanner communication step of transmitting a request command from a scanner driver for said scanner device to said scanner communication means of said connection apparatus, and outputting information from said scanner communication means

to said scanner driver, thereby causing said scanner device connected to said connection apparatus to function as a scanner device virtually connected to said control apparatus.

10. (Withdrawn) A computer program which functions as a scanner control apparatus which remote-controls via a network a connection apparatus having: a network interface; a scanner interface which is connected to a scanner device connected to a general information processing apparatus; standard input/output means for functioning as a standard input/output device; and scanner connection means for outputting image data read by said scanner device connected to said scanner interface to a network in accordance with a request received via said network interface, said program functions as:

virtual standard input/output means for transmitting bitmap image data drawn in accordance with a request from a scanner control application to said standard input/output means of said connection apparatus, and notifying said application of an input from said standard input/output means, thereby causing said standard input/output means of said connection apparatus to function as a virtual standard input/output device of said control apparatus; and

virtual scanner communication means for transmitting a request command from a scanner driver for said scanner device to said scanner communication means of said connection apparatus, and outputting information from said scanner communication means to said scanner driver, thereby causing said scanner device connected to said connection apparatus to function as a scanner device virtually connected to said control apparatus.

11. (Withdrawn) The computer program according to claim 10, wherein said computer program as said virtual standard input/output means and said virtual scanner communication means is a device driver.

12. (Withdrawn) A computer program of the scanner control application according to claim 10, which functions as:

drawing request means for requiring said virtual standard input/output means of drawing of an operation image;

instruction input means for receiving an instruction by a user from said virtual standard input/output means;

interface means for setting scanning conditions by repeating operations by said drawing request means and said instruction input means;

reading request means for, during setting by said interface means, if the instruction from said virtual standard input/output means relates to start of scanning, requiring said scanner driver of original reading; and

reception means for receiving an original image via said scanner driver by said reading request means.

13. (Withdrawn) A network scanning system having: a connection apparatus including a scanner interface and a network interface, which are connected to a scanner device connected to a general information processing apparatus, so as to cause said



scanner device to function as a network scanner device; and a control device to control said connection apparatus via a network,

wherein said connection apparatus comprising:

command execution means for receiving an instruction command from said control apparatus via said network interface and executes the command for said scanner interface; and

output means for outputting data, received from said scanner interface as a result of execution by said command execution means, to said control apparatus via said network interface,

and wherein said control apparatus comprising:

virtual scanner communication means for outputting a request command from a scanner driver for said scanner device, which operates on said control apparatus, to said connection apparatus, and receiving information from said connection apparatus then outputting the information to said scanner driver, thereby causing said connection apparatus to function as a scanner device virtually connected to said control apparatus.

14. (Previously Presented) A scanner connection apparatus which connects a scanner device, comprising:

a network interface configured to connect to a network;

a scanner interface connected to said scanner device;

instruction operation means for instructing an operation of said scanner device, and for instructing a transmission, via said network interface, of data received from

said scanner device;

command execution means for receiving an instruction command from a predetermined control apparatus on said network via said network interface, and enabling said instruction operation means to input an instruction for a scanning operation of said scanner device;

input means for inputting an instruction for a scanning operation of said scanner device after the enabling of said instruction operation means to input the instruction; and

output means for outputting data, received from said scanner device by the scanning operation of said scanner device, to said control apparatus via said network interface in accordance with an instruction of said instruction operation means.

15. (Previously Presented) A control method for a scanner connection apparatus having a scanner interface which is connected to a scanner device and a network interface configured to connect to a network, comprising:

an instruction operation step of instructing an operation of said scanner device, and for instructing a transmission, via said network interface, of data received from said scanner device;

a command execution step of receiving an instruction command from a predetermined control apparatus on said network via said network interface, and enabling said instruction operation step to input an instruction for a scanning operation of said scanner device;

an input step of inputting an instruction for a scanning operation of said scanner device after the enabling of said instruction operation step to input the instruction; and

an output step of outputting data, received from said scanner device by the scanning operation of said scanner device, to said control apparatus via said network interface in accordance with an instruction in said instruction operation step.

16. (Withdrawn) A scanner control apparatus which remote-controls via a network a connection apparatus having: a network interface; a scanner interface which is connected to a scanner device connected to a general information processing apparatus; and scanner connection means for outputting image data read by said scanner device connected to said scanner interface to a network in accordance with a request received via said network interface, said scanner control apparatus comprising:

transmission means for transmitting a request command from a scanner driver for said scanner device to scanner communication means of said connection apparatus; and

reception means for receiving information from said scanner communication means and outputting the information to said scanner driver,

wherein by said transmission means and said reception means, said scanner control apparatus causes said scanner device connected to said connection apparatus to function as a scanner device virtually connected to said control apparatus.

17. (Withdrawn) A control method for a scanner control apparatus which remote-controls via a network a connection apparatus having: a network interface; a scanner interface which is connected to a scanner device connected to a general information processing apparatus; and scanner connection means for outputting image data read by said scanner device connected to said scanner interface to a network in accordance with a request received via said network interface, said method comprising:

a transmission step of transmitting a request command from a scanner driver for said scanner device to scanner communication means of said connection apparatus; and

a reception step of receiving information from said scanner communication means and outputting the information to said scanner driver,

wherein at said transmission step and said reception step, said scanner device connected to said connection apparatus is caused to function as a scanner device virtually connected to said control apparatus.

18. (Withdrawn) A computer program which functions as a scanner control apparatus which remote-controls via a network a connection apparatus having: a network interface; a scanner interface which is connected to a scanner device connected to a general information processing apparatus; and scanner connection means for outputting image data read by said scanner device connected to said scanner interface to a network in accordance with a request received via said network interface,

said program functions as:

transmission means for transmitting a request command from a scanner driver for said scanner device to scanner communication means of said connection apparatus; and

reception means for receiving information from said scanner communication means and outputting the information to said scanner driver,

wherein by said transmission means and said reception means, said program causes said scanner device connected to said connection apparatus to function as a scanner device virtually connected to said control apparatus.

19. (Withdrawn) The computer program according to claim 18, wherein said transmission means and said reception means are device driver programs.

20. (Withdrawn) A network scanner apparatus having a network interface for transmitting image data scanned by a scanner device, said apparatus comprising:

operation means for displaying destinations, to at least one of which image data scanned by said scanner device is transmitted, designating at least one of displayed destinations, and instructing said scanner device to scan an original, wherein the destinations are displayed on the basis of destination information stored in an information processing apparatus on said network; and

a processing means for receiving image data from said scanner device and transmitting an original image data based on the received image data to said network

via said network interface,

wherein, after a plurality of destinations having categories different from each other are designated by said operation means, said processing means transmits the original image scanned on single original scanning and received from said scanner device to said network.

21. (Withdrawn) The apparatus according to claim 20, wherein the categories include a facsimile, an electronic mail and a FTP.

22. (Withdrawn) The apparatus according to claim 20, wherein said operation means is capable of registering an destination and editing the displayed destinations.

23. (Withdrawn) A control method of a network scanner apparatus having a network interface for transmitting image data scanned by a scanner device, said apparatus comprising:

an operation step of displaying destinations, to at least one of which image data scanned by said scanner device is transmitted, designating at least one of displayed destinations, and instructing said scanner device to scan an original, wherein the destinations are displayed on the basis of destination information stored in an information processing apparatus on said network; and

a processing of receiving image data from said scanner device and

transmitting an original image data based on the received image data to said network via said network interface,

wherein, after a plurality of destinations having categories different from each other are designated in said operation step, the original image scanned on single original scanning and received from said scanner device is transmitted to said network in said processing step.

24. (Withdrawn) A network scanner apparatus having a network interface for transmitting image data scanned by a scanner device, said apparatus comprising:

operation means for, in accordance with data received from an information processing apparatus on a network via said network interface, displaying on a display unit a user interface including a plurality of selectable items for instructing said scanner device or handling image data to be received from said scanner device, and generating instruction signals in response to selecting, by a user, an item of the plurality of items displayed on said display unit;

processing means for, if a specific item among the plurality of items displayed on the display unit is designated, generating an scanning instruction signal for said scanner device, and transmitting image data received from said scanner device to said network via said network interface.

25. (Withdrawn) The apparatus according to claim 24, wherein said

operation means displays, as the user interface, bitmap image data received from said information processing apparatus via said network interface.

26. (Withdrawn) A control method of a network scanner apparatus having a network interface for transmitting image data scanned by a scanner device, said apparatus comprising:

an operation step of, in accordance with data received from an information processing apparatus on a network via said network interface, displaying on a display unit a user interface including a plurality of selectable items for instructing said scanner device or handling image data to be received from said scanner device, and generating an instruction signal in response to selecting, by a user, an item of the plurality of items displayed on said display unit;

an processing step of, if a specific item among the plurality of items displayed on the display unit is designated, generating an scanning instruction signal for said scanner device, and transmitting image data received from said scanner device to said network via said network interface.

27. (Previously Presented) A scanner connection apparatus which connects a scanner device, comprising:

a network interface configured to connect to a network;

a scanner interface connected to said scanner device;

instruction operation means for instructing an operation of said scanner



device, and for instructing a transmission, via said network interface, of data received from said scanner device;

command execution means for receiving an instruction command from a predetermined control apparatus on said network via said network interface, and enabling said instruction operation means to input an instruction for a scanning operation of said scanner device;

input means for inputting an instruction for a scanning operation of said scanner device after the enabling of said instruction operation means to input the instruction, and inputting an instruction designating plural destinations, in which different transmission categories are included, for data received from said scanner device; and

output means for outputting data, received from said scanner device by the scanning operation of said scanner device to said network via said network interface in accordance with an instruction of said instruction operation means.

28. (Previously Presented) The apparatus according to Claim 27, wherein said output means outputs the data from said scanner device to an external apparatus on said network so that the external apparatus transmits the data to the destinations designated by said input means.

29. (Previously Presented) A control method for a scanner connection apparatus having a network interface configured to connect to a network and a scanner interface connected to said scanner device, comprising:

an instruction operation step of instructing an operation of said scanner device, and of instructing a transmission, via said network interface, of data received from said scanner device;

a command execution step of receiving an instruction command from a predetermined control apparatus on said network via said network interface, and enabling said instruction operation step to input an instruction for a scanning operation of said scanner device;

an input step of inputting an instruction for a scanning operation of said scanner device after the enabling of said instruction operation step to input the instruction, and of inputting an instruction designating plural destinations, in which different transmission categories are included, for data received from said scanner device; and

an output step of outputting data, received from said scanner device by the scanning operation of said scanner device to said network via said network interface in accordance with an instruction in said instruction operation step.